

Att- H/a



ISIS-3105

- 72 -

PATENT

SEQUENCE LISTING

(1) GENERAL INFORMATION:

- (i) APPLICANTS: Ching-Leou Teng and Greg Hardee
- (ii) TITLE OF INVENTION: Compositions and Methods for the Delivery of Oligonucleotides Via the Alimentary Canal
- (iii) NUMBER OF SEQUENCES: 132
- (iv) CORRESPONDENCE ADDRESS:
 - (A) ADDRESSEE: Woodcock Washburn Kurtz Mackiewicz & Norris LLP
 - (B) STREET: One Liberty Place, 46th Floor
 - (C) CITY: Philadelphia
 - (D) STATE: PA
 - (E) COUNTRY: USA
 - (F) ZIP: 19103
- (v) COMPUTER READABLE FORM:
 - (A) MEDIUM TYPE: DISKETTE, 3.5 INCH, 1.44 MB STORAGE
 - (B) COMPUTER: IBM PS/2
 - (C) OPERATING SYSTEM: PC-DOS
 - (D) SOFTWARE: WORDPERFECT 6.1
- (vi) CURRENT APPLICATION DATA:
 - (A) APPLICATION NUMBER: 09/108,673
 - (B) FILING DATE: July 1, 1998
 - (C) CLASSIFICATION: n/a
- (vii) PRIOR APPLICATION DATA:
 - (A) APPLICATION NUMBER: 08/886,829
 - (B) FILING DATE: 01-JUL-1997
- (viii) ATTORNEY/AGENT INFORMATION:
 - (A) NAME: Paul K. Legaard
 - (B) REGISTRATION NUMBER: 38,534
 - (C) REFERENCE/DOCKET NUMBER: ISIS-3105
- (ix) TELECOMMUNICATION INFORMATION:
 - (A) TELEPHONE: (215) 568-3100
 - (B) TELEFAX: (215) 568 3439

(2) INFORMATION FOR SEQ ID NO: 1:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 20 base pairs
 - (B) TYPE: Nucleic Acid
 - (C) STRANDEDNESS: Single
 - (D) TOPOLOGY: Linear
- (iv) ANTI-SENSE: Yes
- (ix) FEATURE:
 - (D) OTHER INFORMATION: ISIS 2302
- (x) PUBLICATION INFORMATION:
 - (H) DOCUMENT NUMBER: US 5591623 (SEQ ID NO:22)

(I) FILING DATE: 21-JAN-1993

(J) PUBLICATION DATE: 07-JAN-1997

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 1:

GCCCAAGCTG GCATCCGTCA 20

(2) INFORMATION FOR SEQ ID NO: 2:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 21 base pairs

(B) TYPE: Nucleic Acid

(C) STRANDEDNESS: Single

(D) TOPOLOGY: Linear

(iv) ANTI-SENSE: Yes

(ix) FEATURE:

(D) OTHER INFORMATION: GM1595

(x) PUBLICATION INFORMATION:

(H) DOCUMENT NUMBER: US 5580969 (SEQ ID NO:11)

(I) FILING DATE: 12-OCT-1993

(J) PUBLICATION DATE: 12-DEC-1996

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 2:

AGCCATAGCG AGGCTGAGGT T 21

(2) INFORMATION FOR SEQ ID NO: 3:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 20 base pairs

(B) TYPE: Nucleic Acid

(C) STRANDEDNESS: Single

(D) TOPOLOGY: Linear

(iv) ANTI-SENSE: Yes

(ix) FEATURE:

(D) OTHER INFORMATION: ISIS 5847

(x) PUBLICATION INFORMATION:

(H) DOCUMENT NUMBER: US 5591623 (SEQ ID NO:72)

(I) FILING DATE: 21-JAN-1993

(J) PUBLICATION DATE: 07-JAN-1997

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 3:

AACATCTCCG TACCATGCCA 20

(2) INFORMATION FOR SEQ ID NO: 4:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 21 base pairs

(B) TYPE: Nucleic Acid

(C) STRANDEDNESS: Single

(D) TOPOLOGY: Linear

(iv) ANTI-SENSE: Yes

(ix) FEATURE:

(D) OTHER INFORMATION: GM1535

(x) PUBLICATION INFORMATION:

(H) DOCUMENT NUMBER: US 5596090 (SEQ ID NO:3)

(I) FILING DATE: 12-OCT-1993

(J) PUBLICATION DATE: 21-JAN-1997

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 4:

CCCAGGCATT TTAAGTTGCT G 21

- (2) INFORMATION FOR SEQ ID NO: 5:
- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 21 base pairs
 - (B) TYPE: Nucleic Acid
 - (C) STRANDEDNESS: Single
 - (D) TOPOLOGY: Linear
 - (iv) ANTI-SENSE: Yes
 - (ix) FEATURE:
 - (D) OTHER INFORMATION: GM1515
 - (x) PUBLICATION INFORMATION:
 - (H) DOCUMENT NUMBER: US 5585479 (SEQ ID NO:1)
 - (I) FILING DATE: 12-OCT-1993
 - (J) PUBLICATION DATE: 17-DEC-1996
 - (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 5:

GTTTAAGGCA GCATCCTAAG A 21

- (2) INFORMATION FOR SEQ ID NO: 6:
- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 21 base pairs
 - (B) TYPE: Nucleic Acid
 - (C) STRANDEDNESS: Single
 - (D) TOPOLOGY: Linear
 - (iv) ANTI-SENSE: Yes
 - (ix) FEATURE:
 - (D) OTHER INFORMATION: GM1516
 - (x) PUBLICATION INFORMATION:
 - (H) DOCUMENT NUMBER: US 5585479 (SEQ ID NO:2)
 - (I) FILING DATE: 12-OCT-1993
 - (J) PUBLICATION DATE: 17-DEC-1996
 - (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 6:

TCACCCAAAG GTTTAGGCTT G 21

- (2) INFORMATION FOR SEQ ID NO: 7:
- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 21 base pairs
 - (B) TYPE: Nucleic Acid
 - (C) STRANDEDNESS: Single
 - (D) TOPOLOGY: Linear
 - (iv) ANTI-SENSE: Yes
 - (ix) FEATURE:
 - (D) OTHER INFORMATION: GM1517
 - (x) PUBLICATION INFORMATION:
 - (H) DOCUMENT NUMBER: US 5585479 (SEQ ID NO:3)
 - (I) FILING DATE: 12-OCT-1993
 - (J) PUBLICATION DATE: 17-DEC-1996
 - (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 7:

GCAATCATGA CTTCAAGAGT T 21

- (2) INFORMATION FOR SEQ ID NO: 8:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 18 base pairs
 - (B) TYPE: Nucleic Acid
 - (C) STRANDEDNESS: Single
 - (D) TOPOLOGY: Linear
- (iv) ANTI-SENSE: Yes
- (ix) FEATURE:
 - (D) OTHER INFORMATION: Antisense to c-myb mRNA; a.k.a. "MYB-AS"
- (x) PUBLICATION INFORMATION:
 - (A) AUTHORS: Calabretta, Bruno, et al.
 - (B) TITLE: Inhibition of Protooncogene Expression in Leukemic Cells: An Antisense Approach
 - (C) JOURNAL: Antisense Research and Applications, Crooke, S.T., et al., eds., CRC Press, Boca Raton
 - (D) VOLUME: Chapter 31
 - (F) PAGES: 535-545
 - (G) DATE: 1993
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 8:

GTGCCGGGGT CTCGGGC 18

- (2) INFORMATION FOR SEQ ID NO: 9:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 20 base pairs
 - (B) TYPE: Nucleic Acid
 - (C) STRANDEDNESS: Single
 - (D) TOPOLOGY: Linear
 - (iv) ANTI-SENSE: Yes
 - (ix) FEATURE:
 - (D) OTHER INFORMATION: Antisense to mammalian DNA methyl transferase
 - (x) PUBLICATION INFORMATION:
 - (H) DOCUMENT NUMBER: WO 95/15378 (SEQ ID NO:1)
 - (I) FILING DATE: 30-NOV-1994
 - (J) PUBLICATION DATE: 08-JUN-1995
 - (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 9:

CATCTGCCAT TCCCACTCTA 20

- (2) INFORMATION FOR SEQ ID NO: 10:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 24 base pairs
 - (B) TYPE: Nucleic Acid
 - (C) STRANDEDNESS: Single
 - (D) TOPOLOGY: Linear
 - (iv) ANTI-SENSE: Yes
 - (ix) FEATURE:
 - (D) OTHER INFORMATION: Antisense to mammalian DNA methyl transferase
 - (x) PUBLICATION INFORMATION:
 - (H) DOCUMENT NUMBER: WO 95/15378 (SEQ ID NO:2)
 - (I) FILING DATE: 30-NOV-1994
 - (J) PUBLICATION DATE: 08-JUN-1995
 - (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 10:

TTGGCATCTG CCATTCCCAC TCTA 24

- (2) INFORMATION FOR SEQ ID NO: 11:
- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 19 base pairs
 - (B) TYPE: Nucleic Acid
 - (C) STRANDEDNESS: Single
 - (D) TOPOLOGY: Linear
 - (iv) ANTI-SENSE: Yes
 - (ix) FEATURE:
 - (D) OTHER INFORMATION: Antisense to Vascular Endothelial Growth factor (VEGF)
 - (x) PUBLICATION INFORMATION:
 - (H) DOCUMENT NUMBER: WO 95/04142 (SEQ ID NO:1)
 - (I) FILING DATE: 26-JUL-1994
 - (J) PUBLICATION DATE: 09-FEB-1995
 - (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 11:

CATGGTTTCG GAGGGCGTC 19

- (2) INFORMATION FOR SEQ ID NO: 12:
- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 20 base pairs
 - (B) TYPE: Nucleic Acid
 - (C) STRANDEDNESS: Single
 - (D) TOPOLOGY: Linear
 - (iv) ANTI-SENSE: Yes
 - (ix) FEATURE:
 - (D) OTHER INFORMATION: Antisense to Vascular Endothelial Growth factor (VEGF)
 - (x) PUBLICATION INFORMATION:
 - (A) AUTHORS: Robinson, G.S., et al.
 - (B) TITLE: Oligodeoxynucleotides inhibit retinal neovascularization in a murine model of proliferative retinopathy (SEQ ID NO: M3)
 - (C) JOURNAL: The Proceedings of the National Academy of Sciences (U.S.A.)
 - (D) VOLUME: 93
 - (F) PAGES: 4851-4856
 - (G) DATE: MAY-1996
 - (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 12:

TCGCGCTCCC TCTCTCCGGC 20

- (2) INFORMATION FOR SEQ ID NO: 13:
- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 20 base pairs
 - (B) TYPE: Nucleic Acid
 - (C) STRANDEDNESS: Single
 - (D) TOPOLOGY: Linear
 - (iv) ANTI-SENSE: Yes
 - (ix) FEATURE:
 - (D) OTHER INFORMATION: Antisense to Vascular Endothelial Growth factor (VEGF)

- (x) PUBLICATION INFORMATION:
 - (H) DOCUMENT NUMBER: WO 95/04142 (SEQ ID NO: 4)
 - (I) FILING DATE: 26-JUL-1994
 - (J) PUBLICATION DATE: 09-FEB-1995
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 13:

CACCCAAGAG AGCAGAAAGT 20

- (2) INFORMATION FOR SEQ ID NO: 14:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 22 base pairs
 - (B) TYPE: Nucleic Acid
 - (C) STRANDEDNESS: Single
 - (D) TOPOLOGY: Linear
 - (iv) ANTI-SENSE: Yes
 - (ix) FEATURE:
 - (D) OTHER INFORMATION: Antisense to Vascular Endothelial Growth factor (VEGF)
 - (x) PUBLICATION INFORMATION:
 - (A) AUTHORS: Nomura, M., et al.
 - (B) TITLE: Possible Participation of Autocrine and Paracrine Vascular Endothelial Growth factors in Hypoxia-induced Proliferation of Endothelial Cells and Pericytes
 - (C) JOURNAL: The Journal of Biological Chemistry
 - (D) VOLUME: 270
 - (E) ISSUE: 47
 - (F) PAGES: 28316-28324
 - (G) DATE: 24-NOV-1995
 - (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 14:

CCCAAGACAG CAGAAAGTTC AT 22

- (2) INFORMATION FOR SEQ ID NO: 15:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 20 base pairs
 - (B) TYPE: Nucleic Acid
 - (C) STRANDEDNESS: Single
 - (D) TOPOLOGY: Linear
 - (iv) ANTI-SENSE: Yes
 - (ix) FEATURE:
 - (D) OTHER INFORMATION: Antisense to Vascular Endothelial Growth factor (VEGF)
 - (x) PUBLICATION INFORMATION:
 - (H) DOCUMENT NUMBER: WO 95/04142 (SEQ ID NO: 5)
 - (I) FILING DATE: 26-JUL-1994
 - (J) PUBLICATION DATE: 09-FEB-1995
 - (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 15:

TCGTGGGTGC AGCCTGGGAC 20

- (2) INFORMATION FOR SEQ ID NO: 16:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 21 base pairs
 - (B) TYPE: Nucleic Acid

- (C) STRANDEDNESS: Single
- (D) TOPOLOGY: Linear
- (iv) ANTI-SENSE: Yes
- (ix) FEATURE:
 - (D) OTHER INFORMATION: Antisense to Vascular Endothelial Growth factor (VEGF)
- (x) PUBLICATION INFORMATION:
 - (H) DOCUMENT NUMBER: WO 95/04142 (SEQ ID NO:11)
 - (I) FILING DATE: 26-JUL-1994
 - (J) PUBLICATION DATE: 09-FEB-1995
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 16:

CTGCCCCGGCT CACCGCCTCG G 21

- (2) INFORMATION FOR SEQ ID NO: 17:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 19 base pairs
 - (B) TYPE: Nucleic Acid
 - (C) STRANDEDNESS: Single
 - (D) TOPOLOGY: Linear
 - (iv) ANTI-SENSE: Yes
 - (ix) FEATURE:
 - (D) OTHER INFORMATION: Antisense to Vascular Endothelial Growth factor (VEGF)
 - (x) PUBLICATION INFORMATION:
 - (H) DOCUMENT NUMBER: WO 95/04142 (SEQ ID NO: 12)
 - (I) FILING DATE: 26-JUL-1994
 - (J) PUBLICATION DATE: 09-FEB-1995
 - (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 17:

CATGGTTTCG GAGGCCCGA 19

- (2) INFORMATION FOR SEQ ID NO: 18:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 20 base pairs
 - (B) TYPE: Nucleic Acid
 - (C) STRANDEDNESS: Single
 - (D) TOPOLOGY: Linear
 - (iv) ANTI-SENSE: Yes
 - (ix) FEATURE:
 - (D) OTHER INFORMATION: Antisense to Vascular Endothelial Growth factor (VEGF)
 - (x) PUBLICATION INFORMATION:
 - (H) DOCUMENT NUMBER: WO 95/04142 (SEQ ID NO: 13)
 - (I) FILING DATE: 26-JUL-1994
 - (J) PUBLICATION DATE: 09-FEB-1995
 - (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 18:

CACCCAAGAC AGCAGAAAGT 20

- (2) INFORMATION FOR SEQ ID NO: 19:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 20 base pairs
 - (B) TYPE: Nucleic Acid

- (C) STRANDEDNESS: Single
- (D) TOPOLOGY: Linear
- (iv) ANTI-SENSE: Yes
- (ix) FEATURE:
 - (D) OTHER INFORMATION: Antisense to Vascular Endothelial Growth factor (VEGF)
- (x) PUBLICATION INFORMATION:
- (H) DOCUMENT NUMBER: WO 95/04142 (SEQ ID NO:17)
- (I) FILING DATE: 26-JUL-1994
- (J) PUBLICATION DATE: 09-FEB-1995
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 19:

CCATGGGTGC AGCCTGGGAC 20

- (2) INFORMATION FOR SEQ ID NO: 20:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 20 base pairs
 - (B) TYPE: Nucleic Acid
 - (C) STRANDEDNESS: Single
 - (D) TOPOLOGY: Linear
 - (iv) ANTI-SENSE: Yes
 - (ix) FEATURE:
 - (D) OTHER INFORMATION: Antisense to Vascular Endothelial Growth factor (VEGF)
 - (x) PUBLICATION INFORMATION:
 - (H) DOCUMENT NUMBER: WO 95/04142 (SEQ ID NO: 17)
 - (I) FILING DATE: 26-JUL-1994
 - (J) PUBLICATION DATE: 09-FEB-1995
 - (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 20:

CCATGGGTGC AGCCTGGGAC 20

- (2) INFORMATION FOR SEQ ID NO: 21:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 21 base pairs
 - (B) TYPE: Nucleic Acid
 - (C) STRANDEDNESS: Single
 - (D) TOPOLOGY: Linear
 - (iv) ANTI-SENSE: Yes
 - (ix) FEATURE:
 - (D) OTHER INFORMATION: Antisense to Vascular Endothelial Growth factor (VEGF); a.k.a. "Vm"
 - (x) PUBLICATION INFORMATION:
 - (A) AUTHORS: Robinson, G.S., et al.
 - (B) TITLE: Oligodeoxynucleotides inhibit retinal neovascularization in a murine model of proliferative retinopathy
 - (C) JOURNAL: The Proceedings of the National Academy of Sciences (U.S.A.)
 - (D) VOLUME: 93
 - (F) PAGES: 4851-4856
 - (G) DATE: MAY-1996
 - (x) PUBLICATION INFORMATION:
 - (H) DOCUMENT NUMBER: WO 95/04142 (SEQ ID NO:2)
 - (I) FILING DATE: 26-JUL-1994

(J) PUBLICATION DATE: 09-FEB-1995

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 21:

CAGCCTGGCT CACCGCCTTG G 21

(2) INFORMATION FOR SEQ ID NO: 22:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 20 base pairs

(B) TYPE: Nucleic Acid

(C) STRANDEDNESS: Single

(D) TOPOLOGY: Linear

(iv) ANTI-SENSE: Yes

(ix) FEATURE:

(D) OTHER INFORMATION: Antisense to bcl-2 mRNA

(x) PUBLICATION INFORMATION:

(H) DOCUMENT NUMBER: WO 95/08350 (SEQ ID NO: 1)

(I) FILING DATE: 20-SEP-1994

(J) PUBLICATION DATE: 30-MAR-1995

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 22:

CCCTTCCTAC CGCGTGCAC 20

(2) INFORMATION FOR SEQ ID NO: 23:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 20 base pairs

(B) TYPE: Nucleic Acid

(C) STRANDEDNESS: Single

(D) TOPOLOGY: Linear

(iv) ANTI-SENSE: Yes

(ix) FEATURE:

(D) OTHER INFORMATION: Antisense to bcl-2 mRNA

(x) PUBLICATION INFORMATION:

(H) DOCUMENT NUMBER: WO 95/08350 (SEQ ID NO: 3)

(I) FILING DATE: 20-SEP-1994

(J) PUBLICATION DATE: 30-MAR-1995

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 23:

CCTCCGACCC ATCCACGTAG 20

(2) INFORMATION FOR SEQ ID NO: 24:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 20 base pairs

(B) TYPE: Nucleic Acid

(C) STRANDEDNESS: Single

(D) TOPOLOGY: Linear

(iv) ANTI-SENSE: Yes

(ix) FEATURE:

(D) OTHER INFORMATION: Antisense to bcl-2 mRNA

(x) PUBLICATION INFORMATION:

(H) DOCUMENT NUMBER: WO 95/08350 (SEQ ID NO: 5)

(I) FILING DATE: 20-SEP-1994

(J) PUBLICATION DATE: 30-MAR-1995

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 24:

GTTGACGTCC TACGGAAACA 20

- (2) INFORMATION FOR SEQ ID NO: 25:
- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 17 base pairs
 - (B) TYPE: Nucleic Acid
 - (C) STRANDEDNESS: Single
 - (D) TOPOLOGY: Linear
 - (iv) ANTI-SENSE: Yes
 - (ix) FEATURE:
 - (D) OTHER INFORMATION: Antisense to bcl-2 mRNA
 - (x) PUBLICATION INFORMATION:
 - (H) DOCUMENT NUMBER: WO 95/08350 (SEQ ID NO: 8)
 - (I) FILING DATE: 20-SEP-1994
 - (J) PUBLICATION DATE: 30-MAR-1995
 - (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 25:

CGCGTGCGAC CCTCTTG 17

- (2) INFORMATION FOR SEQ ID NO: 26:
- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 17 base pairs
 - (B) TYPE: Nucleic Acid
 - (C) STRANDEDNESS: Single
 - (D) TOPOLOGY: Linear
 - (iv) ANTI-SENSE: Yes
 - (ix) FEATURE:
 - (D) OTHER INFORMATION: Antisense to bcl-2 mRNA
 - (x) PUBLICATION INFORMATION:
 - (H) DOCUMENT NUMBER: WO 95/08350 (SEQ ID NO: 9)
 - (I) FILING DATE: 20-SEP-1994
 - (J) PUBLICATION DATE: 30-MAR-1995
 - (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 26:

TCCTACCGCG TGCGACC 17

- (2) INFORMATION FOR SEQ ID NO: 27:
- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 17 base pairs
 - (B) TYPE: Nucleic Acid
 - (C) STRANDEDNESS: Single
 - (D) TOPOLOGY: Linear
 - (iv) ANTI-SENSE: Yes
 - (ix) FEATURE:
 - (D) OTHER INFORMATION: Antisense to bcl-2 mRNA
 - (x) PUBLICATION INFORMATION:
 - (H) DOCUMENT NUMBER: WO 95/08350 (SEQ ID NO: 10)
 - (I) FILING DATE: 20-SEP-1994
 - (J) PUBLICATION DATE: 30-MAR-1995
 - (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 27:

TCCTACCGCG TGCGACC 17

- (2) INFORMATION FOR SEQ ID NO: 28:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 17 base pairs
 - (B) TYPE: Nucleic Acid
 - (C) STRANDEDNESS: Single
 - (D) TOPOLOGY: Linear
- (iv) ANTI-SENSE: Yes
- (ix) FEATURE:
 - (D) OTHER INFORMATION: Antisense to bcl-2 mRNA
- (x) PUBLICATION INFORMATION:
 - (H) DOCUMENT NUMBER: WO 95/08350 (SEQ ID NO: 11)
 - (I) FILING DATE: 20-SEP-1994
 - (J) PUBLICATION DATE: 30-MAR-1995
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 28:

CCTTCCTACC GCGTGCG 17

- (2) INFORMATION FOR SEQ ID NO: 29:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 17 base pairs
 - (B) TYPE: Nucleic Acid
 - (C) STRANDEDNESS: Single
 - (D) TOPOLOGY: Linear
 - (iv) ANTI-SENSE: Yes
 - (ix) FEATURE:
 - (D) OTHER INFORMATION: Antisense to bcl-2 mRNA
 - (x) PUBLICATION INFORMATION:
 - (H) DOCUMENT NUMBER: WO 95/08350 (SEQ ID NO: 12)
 - (I) FILING DATE: 20-SEP-1994
 - (J) PUBLICATION DATE: 30-MAR-1995
 - (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 29

GACCCTTCCT ACCGCGT 17

- (2) INFORMATION FOR SEQ ID NO: 30:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 17 base pairs
 - (C) STRANDEDNESS: Single
 - (D) TOPOLOGY: Linear
 - (iv) ANTI-SENSE: Yes
 - (ix) FEATURE:
 - (D) OTHER INFORMATION: Antisense to bcl-2 mRNA
 - (x) PUBLICATION INFORMATION:
 - (H) DOCUMENT NUMBER: WO 95/08350 (SEQ ID NO: 13)
 - (I) FILING DATE: 20-SEP-1994
 - (J) PUBLICATION DATE: 30-MAR-1995
 - (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 30:

GGAGACCCTT CCTACCG 17

- (2) INFORMATION FOR SEQ ID NO: 31:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 15 base pairs
 - (B) TYPE: Nucleic Acid

- (C) STRANDEDNESS: Single
- (D) TOPOLOGY: Linear
- (iv) ANTI-SENSE: Yes
- (ix) FEATURE:
 - (D) OTHER INFORMATION: Antisense to bcl-2 mRNA
- (x) PUBLICATION INFORMATION:
 - (H) DOCUMENT NUMBER: WO 95/08350 (SEQ ID NO: 14)
 - (I) FILING DATE: 20-SEP-1994
 - (J) PUBLICATION DATE: 30-MAR-1995
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 31:

GCGGCGGCAG CGCGG 15

- (2) INFORMATION FOR SEQ ID NO: 32:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 15 base pairs
 - (B) TYPE: Nucleic Acid
 - (C) STRANDEDNESS: Single
 - (D) TOPOLOGY: Linear
 - (iv) ANTI-SENSE: Yes
 - (ix) FEATURE:
 - (D) OTHER INFORMATION: Antisense to bcl-2 mRNA
 - (x) PUBLICATION INFORMATION:
 - (H) DOCUMENT NUMBER: WO 95/08350 (SEQ ID NO: 15)
 - (I) FILING DATE: 20-SEP-1994
 - (J) PUBLICATION DATE: 30-MAR-1995
 - (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 32:

CGGCGGGGCG ACGGA 15

- (2) INFORMATION FOR SEQ ID NO: 33:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 16 base pairs
 - (B) TYPE: Nucleic Acid
 - (C) STRANDEDNESS: Single
 - (D) TOPOLOGY: Linear
 - (iv) ANTI-SENSE: Yes
 - (ix) FEATURE:
 - (D) OTHER INFORMATION: Antisense to bcl-2 mRNA
 - (x) PUBLICATION INFORMATION:
 - (H) DOCUMENT NUMBER: WO 95/08350 (SEQ ID NO: 16)
 - (I) FILING DATE: 20-SEP-1994
 - (J) PUBLICATION DATE: 30-MAR-1995
 - (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 33:

CGGGAGCGCG GCGGGC 16

- (2) INFORMATION FOR SEQ ID NO: 34:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 18 base pairs
 - (B) TYPE: Nucleic Acid
 - (C) STRANDEDNESS: Single
 - (D) TOPOLOGY: Linear
 - (iv) ANTI-SENSE: Yes

- (ix) FEATURE:
 - (D) OTHER INFORMATION: Antisense to bcl-2 mRNA; a.k.a. "BCL-2"
- (x) PUBLICATION INFORMATION:
 - (H) DOCUMENT NUMBER: WO 95/08350 (SEQ ID NO:17)
 - (I) FILING DATE: 20-SEP-1994
 - (J) PUBLICATION DATE: 30-MAR-1995
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 34:

TCTCCCAGCG TGCGCCAT 18

- (2) INFORMATION FOR SEQ ID NO: 35:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 19 base pairs
 - (B) TYPE: Nucleic Acid
 - (C) STRANDEDNESS: Single
 - (D) TOPOLOGY: Linear
 - (iv) ANTI-SENSE: Yes
 - (ix) FEATURE:
 - (D) OTHER INFORMATION: Antisense to bcl/abl mRNA
 - (x) PUBLICATION INFORMATION:
 - (H) DOCUMENT NUMBER: WO 92/02641
 - (I) FILING DATE: 09-AUG-1991
 - (J) PUBLICATION DATE: 20-FEB-1992
 - (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 35:

GGCGTTTTGA ACTCTGCTT 19

- (2) INFORMATION FOR SEQ ID NO: 36:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 20 base pairs
 - (B) TYPE: Nucleic Acid
 - (C) STRANDEDNESS: Single
 - (D) TOPOLOGY: Linear
 - (iv) ANTI-SENSE: Yes
 - (ix) FEATURE:
 - (D) OTHER INFORMATION: Antisense to several isoforms of PKC; a.k.a. "oligo_{anti-PKC α} "
 - (x) PUBLICATION INFORMATION:
 - (A) AUTHORS: Shih, M., et al.
 - (B) TITLE: Oligodeoxynucleotides antisense to mRNA encoding protein kinase A, protein kinase C and β -adrenergic receptor kinase reveal distinctive cell-type-specific roles in agonist-induced desensitization
 - (C) JOURNAL: The Proceedings of the National Academy of Sciences (U.S.A.)
 - (D) VOLUME: 91
 - (F) PAGES: 12193-12197
 - (G) DATE: 06-DEC-1994
 - (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 36:

AAGGTGGGCT GCTTGAAGAA 20

- (2) INFORMATION FOR SEQ ID NO: 37:
 - (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 15 base pairs
- (B) TYPE: Nucleic Acid
- (C) STRANDEDNESS: Single
- (D) TOPOLOGY: Linear
- (iv) ANTI-SENSE: Yes
- (ix) FEATURE:
 - (D) OTHER INFORMATION: Antisense to ζ -Protein Kinase C gene
- (x) PUBLICATION INFORMATION:
 - (H) DOCUMENT NUMBER: WO 93/20101 (SEQ ID NO:14)
 - (I) FILING DATE: 02-APR-1993
 - (J) PUBLICATION DATE: 14-OCT-1993
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 37:

GGTCCTGCTG GGCAT 15

- (2) INFORMATION FOR SEQ ID NO: 38:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 20 base pairs
 - (B) TYPE: Nucleic Acid
 - (C) STRANDEDNESS: Single
 - (D) TOPOLOGY: Linear
 - (iv) ANTI-SENSE: Yes
 - (ix) FEATURE:
 - (D) OTHER INFORMATION: Antisense to α -Protein Kinase C gene; a.k.a. "ISIS 3521"
 - (x) PUBLICATION INFORMATION:
 - (H) DOCUMENT NUMBER: WO 95/02069 (SEQ ID NO:2)
 - (I) FILING DATE: 08-JUL-1994
 - (J) PUBLICATION DATE: 19-JAN-1995
 - (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 38:

GTTCTCGCTG GTGAGTTTCA 20

- (2) INFORMATION FOR SEQ ID NO: 39:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 18 base pairs
 - (B) TYPE: Nucleic Acid
 - (C) STRANDEDNESS: Single
 - (D) TOPOLOGY: Linear
 - (iv) ANTI-SENSE: Yes
 - (x) PUBLICATION INFORMATION:
 - (H) DOCUMENT NUMBER: WO 97/11171 (SEQ ID NO:1)
 - (I) FILING DATE: 19-SEP-1996
 - (J) PUBLICATION DATE: 27-MAR-1997
 - (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 39:

GCGTGCCTCC TCACTGGC 18

- (2) INFORMATION FOR SEQ ID NO: 40:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 18 base pairs
 - (B) TYPE: Nucleic Acid
 - (C) STRANDEDNESS: Single
 - (D) TOPOLOGY: Linear

- (iv) ANTI-SENSE: Yes
- (x) PUBLICATION INFORMATION:
 - (H) DOCUMENT NUMBER: WO 97/11171 (SEQ ID NO:4)
 - (I) FILING DATE: 19-SEP-1996
 - (J) PUBLICATION DATE: 27-MAR-1997
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 40:

GCGUGCCTCC TCACUGGC 18

- (2) INFORMATION FOR SEQ ID NO: 41:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 18 base pairs
 - (B) TYPE: Nucleic Acid
 - (C) STRANDEDNESS: Single
 - (D) TOPOLOGY: Linear
 - (iv) ANTI-SENSE: Yes
 - (x) PUBLICATION INFORMATION:
 - (H) DOCUMENT NUMBER: WO 97/11171 (SEQ ID NO:6)
 - (I) FILING DATE: 19-SEP-1996
 - (J) PUBLICATION DATE: 27-MAR-1997
 - (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 41:

GCGTGCCUCC UACTGGC 18

- (2) INFORMATION FOR SEQ ID NO: 42:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 20 base pairs
 - (B) TYPE: Nucleic Acid
 - (C) STRANDEDNESS: Single
 - (D) TOPOLOGY: Linear
 - (iv) ANTI-SENSE: Yes
 - (ix) FEATURE:
 - (D) OTHER INFORMATION: Antisense to β ARK1 and β ARK2; a.k.a. as "oligo_{anti- β ARK2}"
 - (x) PUBLICATION INFORMATION:
 - (A) AUTHORS: Shih, M., et al.
 - (B) TITLE: Oligodeoxynucleotides antisense to mRNA encoding protein kinase A, protein kinase C and β -adrenergic receptor kinase reveal distinctive cell-type-specific roles in agonist-induced desensitization
 - (C) JOURNAL: The Proceedings of the National Academy of Sciences (U.S.A.)
 - (D) VOLUME: 91
 - (F) PAGES: 12193-12197
 - (G) DATE: 06-DEC-1994
 - (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 42:

ACCGCCTCCA GGTCCGCCAT 20

- (2) INFORMATION FOR SEQ ID NO: 43:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 20 base pairs
 - (B) TYPE: Nucleic Acid
 - (C) STRANDEDNESS: Single

- (D) TOPOLOGY: Linear
- (iv) ANTI-SENSE: Yes
- (ix) FEATURE:
 - (D) OTHER INFORMATION: Antisense to Ha-ras Gene;
a.k.a. "ISIS 2503"
- (x) PUBLICATION INFORMATION:
 - (H) DOCUMENT NUMBER: US 5576208 (SEQ ID NO:2)
 - (I) FILING DATE: 26-AUG-1994
 - (J) PUBLICATION DATE: 19-NOV-1996
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 43:

TCCGTCATCG CTCCTCAGGG 20

- (2) INFORMATION FOR SEQ ID NO: 44:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 22 base pairs
 - (B) TYPE: Nucleic Acid
 - (C) STRANDEDNESS: Single
 - (D) TOPOLOGY: Linear
 - (iv) ANTI-SENSE: Yes
 - (ix) FEATURE:
 - (D) OTHER INFORMATION: Antisense to Multi-drug
Resistance-1 (MDR-1) gene
 - (x) PUBLICATION INFORMATION:
 - (H) DOCUMENT NUMBER: WO 96/02556 (SEQ ID NO:1)
 - (I) FILING DATE: 18-JUL-1995
 - (J) PUBLICATION DATE: 01-FEB-1996
 - (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 44:

TGTGCTCTTC CCACAGCCAC TG 22

- (2) INFORMATION FOR SEQ ID NO: 45:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 20 base pairs
 - (B) TYPE: Nucleic Acid
 - (C) STRANDEDNESS: Single
 - (D) TOPOLOGY: Linear
 - (iv) ANTI-SENSE: Yes
 - (ix) FEATURE:
 - (D) OTHER INFORMATION: Antisense to Multi-drug
Resistance-1 (MDR-1) gene
 - (x) PUBLICATION INFORMATION:
 - (H) DOCUMENT NUMBER: WO 96/02556 (SEQ ID NO:2)
 - (I) FILING DATE: 18-JUL-1995
 - (J) PUBLICATION DATE: 01-FEB-1996
 - (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 45:

TGTGCTCTTC CCACAGCCAC 20

- (2) INFORMATION FOR SEQ ID NO: 46:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 20 base pairs
 - (B) TYPE: Nucleic Acid
 - (C) STRANDEDNESS: Single

- (D) TOPOLOGY: Linear
- (iv) ANTI-SENSE: Yes
- (ix) FEATURE:
 - (D) OTHER INFORMATION: Antisense to Multi-drug Resistance-1 (MDR-1) gene
- (x) PUBLICATION INFORMATION:
 - (H) DOCUMENT NUMBER: WO 96/02556 (SEQ ID NO:3)
 - (I) FILING DATE: 18-JUL-1995
 - (J) PUBLICATION DATE: 01-FEB-1996
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 46:

GTGCTCTTCC CACAGCCACT 20

- (2) INFORMATION FOR SEQ ID NO: 47:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 20 base pairs
 - (B) TYPE: Nucleic Acid
 - (C) STRANDEDNESS: Single
 - (D) TOPOLOGY: Linear
 - (iv) ANTI-SENSE: Yes
 - (ix) FEATURE:
 - (D) OTHER INFORMATION: Antisense to Multi-drug Resistance-1 (MDR-1) gene
 - (x) PUBLICATION INFORMATION:
 - (H) DOCUMENT NUMBER: WO 96/02556 (SEQ ID NO:4)
 - (I) FILING DATE: 18-JUL-1995
 - (J) PUBLICATION DATE: 01-FEB-1996
 - (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 47:

TGCTCTTCCC ACAGCCACTG 20

- (2) INFORMATION FOR SEQ ID NO: 48:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 20 base pairs
 - (B) TYPE: Nucleic Acid
 - (C) STRANDEDNESS: Single
 - (D) TOPOLOGY: Linear
 - (iv) ANTI-SENSE: Yes
 - (ix) FEATURE:
 - (D) OTHER INFORMATION: Antisense to multidrug resistance-associated protein (MRP) gene; a.k.a. "ISIS 7597"
 - (x) PUBLICATION INFORMATION:
 - (H) DOCUMENT NUMBER: US 5510239 (SEQ ID NO:8)
 - (I) FILING DATE: 18-OCT-1993
 - (J) PUBLICATION DATE: 23-APR-1996
 - (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 48:

TGCTGTTCGT GCCCCGCCG 20

- (2) INFORMATION FOR SEQ ID NO: 49:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 20 base pairs
 - (B) TYPE: Nucleic Acid
 - (C) STRANDEDNESS: Single

- (D) TOPOLOGY: Linear
- (iv) ANTI-SENSE: Yes
- (ix) FEATURE:
 - (D) OTHER INFORMATION: Antisense to A-raf gene; a.k.a. "ISIS 9069"
- (x) PUBLICATION INFORMATION:
 - (H) DOCUMENT NUMBER: US 5563255 (SEQ ID NO:37)
 - (I) FILING DATE: 31-MAY-1994
 - (J) PUBLICATION DATE: 08-OCT-1996
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 49:

CTAAGGCACA AGGCGGGCTG 20

- (2) INFORMATION FOR SEQ ID NO: 50:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 20 base pairs
 - (B) TYPE: Nucleic Acid
 - (C) STRANDEDNESS: Single
 - (D) TOPOLOGY: Linear
 - (iv) ANTI-SENSE: Yes
 - (ix) FEATURE:
 - (D) OTHER INFORMATION: Antisense to c-raf kinase Gene; a.k.a. "ISIS 5132"
 - (x) PUBLICATION INFORMATION:
 - (H) DOCUMENT NUMBER: US 5563255 (SEQ ID NO:8)
 - (I) FILING DATE: 05-31-1994
 - (J) PUBLICATION DATE: 08-OCT-1996
 - (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 50:

TCCCGCCTGT GACATGCATT 20

- (2) INFORMATION FOR SEQ ID NO: 51:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 25 base pairs
 - (B) TYPE: Nucleic Acid
 - (C) STRANDEDNESS: Single
 - (D) TOPOLOGY: Linear
 - (iv) ANTI-SENSE: Yes
 - (ix) FEATURE:
 - (D) OTHER INFORMATION: Antisense to beta/A4 peptide
 - (x) PUBLICATION INFORMATION:
 - (H) DOCUMENT NUMBER: WO 95/09236 (SEQ ID NO:1)
 - (I) FILING DATE: 28-SEP-1994
 - (J) PUBLICATION DATE: 06-APR-1995
 - (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 51:

CCTCTCTGTT TAAAACTTTA TCCAT 25

- (2) INFORMATION FOR SEQ ID NO: 52:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 21 base pairs
 - (B) TYPE: Nucleic Acid
 - (C) STRANDEDNESS: Single
 - (D) TOPOLOGY: Linear

(iv) ANTI-SENSE: Yes
(ix) FEATURE:
(D) OTHER INFORMATION: Antisense to beta/A4 peptide
(x) PUBLICATION INFORMATION:
(H) DOCUMENT NUMBER: WO 95/09236 (SEQ ID NO:2)
(I) FILING DATE: 28-SEP-1994
(J) PUBLICATION DATE: 06-APR-1995
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 52:
TTCATATCCT GAGTCATGTC G 21

(2) INFORMATION FOR SEQ ID NO: 53:
(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 24 base pairs
(B) TYPE: Nucleic Acid
(C) STRANDEDNESS: Single
(D) TOPOLOGY: Linear
(iv) ANTI-SENSE: Yes
(ix) FEATURE:
(D) OTHER INFORMATION: Antisense to beta/A4 peptide
(x) PUBLICATION INFORMATION:
(H) DOCUMENT NUMBER: WO 95/09236 (SEQ ID NO:3)
(I) FILING DATE: 28-SEP-1994
(J) PUBLICATION DATE: 06-APR-1995
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 53:
GTCCCAGCGC TACGACGGGC CAAA 24

(2) INFORMATION FOR SEQ ID NO: 54:
(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 13 base pairs
(B) TYPE: Nucleic Acid
(C) STRANDEDNESS: Single
(D) TOPOLOGY: Linear
(iv) ANTI-SENSE: Yes
(ix) FEATURE:
(D) OTHER INFORMATION: Antisense to beta/A4 peptide
(x) PUBLICATION INFORMATION:
(H) DOCUMENT NUMBER: WO 95/09236 (SEQ ID NO:4)
(I) FILING DATE: 28-SEP-1994
(J) PUBLICATION DATE: 06-APR-1995
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 54:

GTCCCAGCGC TAC 13

(2) INFORMATION FOR SEQ ID NO: 55:
(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 14 base pairs
(B) TYPE: Nucleic Acid
(C) STRANDEDNESS: Single
(D) TOPOLOGY: Linear
(iv) ANTI-SENSE: Yes
(ix) FEATURE:
(D) OTHER INFORMATION: Antisense to beta/A4 peptide
(x) PUBLICATION INFORMATION:
(H) DOCUMENT NUMBER: WO 95/09236 (SEQ ID NO:5)

(I) FILING DATE: 28-SEP-1994

(J) PUBLICATION DATE: 06-APR-1995

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 55:

TACGACGGGC CAAA

14

(2) INFORMATION FOR SEQ ID NO: 56:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 21 base pairs

(B) TYPE: Nucleic Acid

(C) STRANDEDNESS: Single

(D) TOPOLOGY: Linear

(iv) ANTI-SENSE: Yes

(ix) FEATURE:

(D) OTHER INFORMATION: Antisense to beta/A4 peptide

(x) PUBLICATION INFORMATION:

(H) DOCUMENT NUMBER: WO 95/09236 (SEQ ID NO:6)

(I) FILING DATE: 28-SEP-1994

(J) PUBLICATION DATE: 06-APR-1995

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 56:

GTCCCAGCGC TACGACGGGC C

21

(2) INFORMATION FOR SEQ ID NO: 57:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 18 base pairs

(B) TYPE: Nucleic Acid

(C) STRANDEDNESS: Single

(D) TOPOLOGY: Linear

(iv) ANTI-SENSE: Yes

(ix) FEATURE:

(D) OTHER INFORMATION: Antisense to beta/A4 peptide

(x) PUBLICATION INFORMATION:

(H) DOCUMENT NUMBER: WO 95/09236 (SEQ ID NO:7)

(I) FILING DATE: 28-SEP-1994

(J) PUBLICATION DATE: 06-APR-1995

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 57:

GTCCCAGCGC TACGACGG

18

(2) INFORMATION FOR SEQ ID NO: 58:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 15 base pairs

(B) TYPE: Nucleic Acid

(C) STRANDEDNESS: Single

(D) TOPOLOGY: Linear

(iv) ANTI-SENSE: Yes

(ix) FEATURE:

(D) OTHER INFORMATION: Antisense to beta/A4 peptide

(x) PUBLICATION INFORMATION:

(H) DOCUMENT NUMBER: WO 95/09236 (SEQ ID NO:8)

(I) FILING DATE: 28-SEP-1994

(J) PUBLICATION DATE: 06-APR-1995

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 58:

GTCCCAGCGC TACGA 15

- (2) INFORMATION FOR SEQ ID NO: 59:
- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 21 base pairs
 - (B) TYPE: Nucleic Acid
 - (C) STRANDEDNESS: Single
 - (D) TOPOLOGY: Linear
 - (iv) ANTI-SENSE: Yes
 - (ix) FEATURE:
 - (D) OTHER INFORMATION: Antisense to beta/A4 peptide
 - (x) PUBLICATION INFORMATION:
 - (H) DOCUMENT NUMBER: WO 95/09236 (SEQ ID NO:9)
 - (I) FILING DATE: 28-SEP-1994
 - (J) PUBLICATION DATE: 06-APR-1995
 - (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 59:

CCAGCGCTAC GACGGGCCAA A 21

- (2) INFORMATION FOR SEQ ID NO: 60:
- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 18 base pairs
 - (B) TYPE: Nucleic Acid
 - (C) STRANDEDNESS: Single
 - (D) TOPOLOGY: Linear
 - (iv) ANTI-SENSE: Yes
 - (ix) FEATURE:
 - (D) OTHER INFORMATION: Antisense to beta/A4 peptide
 - (x) PUBLICATION INFORMATION:
 - (H) DOCUMENT NUMBER: WO 95/09236 (SEQ ID NO:10)
 - (I) FILING DATE: 28-SEP-1994
 - (J) PUBLICATION DATE: 06-APR-1995
 - (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 60:

GCGCTACGAC GGGCCAAA 18

- (2) INFORMATION FOR SEQ ID NO: 61:
- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 15 base pairs
 - (B) TYPE: Nucleic Acid
 - (C) STRANDEDNESS: Single
 - (D) TOPOLOGY: Linear
 - (iv) ANTI-SENSE: Yes
 - (ix) FEATURE:
 - (D) OTHER INFORMATION: Antisense to beta/A4 peptide
 - (x) PUBLICATION INFORMATION:
 - (H) DOCUMENT NUMBER: WO 95/09236 (SEQ ID NO:11)
 - (I) FILING DATE: 28-SEP-1994
 - (J) PUBLICATION DATE: 06-APR-1995
 - (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 61:

CTACGACGGG CCAA 15

- (2) INFORMATION FOR SEQ ID NO: 62:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 24 base pairs
 - (B) TYPE: Nucleic Acid
 - (C) STRANDEDNESS: Single
 - (D) TOPOLOGY: Linear
- (iv) ANTI-SENSE: Yes
- (ix) FEATURE:
 - (D) OTHER INFORMATION: Antisense to beta/A4 peptide
- (x) PUBLICATION INFORMATION:
 - (H) DOCUMENT NUMBER: WO 95/09236 (SEQ ID NO:15)
 - (I) FILING DATE: 28-SEP-1994
 - (J) PUBLICATION DATE: 06-APR-1995
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 62:

AAACCGGGCA GCATCGCGAC CCTG 24

- (2) INFORMATION FOR SEQ ID NO: 63:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 18 base pairs
 - (B) TYPE: Nucleic Acid
 - (C) STRANDEDNESS: Single
 - (D) TOPOLOGY: Linear
 - (iv) ANTI-SENSE: Yes
 - (ix) FEATURE:
 - (D) OTHER INFORMATION: Antisense to beta-globin; a.k.a. "5'ss"
 - (x) PUBLICATION INFORMATION:
 - (A) AUTHORS: Sierakowska, H., et al.
 - (B) TITLE: Repair of thalassemic human β -globin in mammalian cells by antisense oligonucleotides
 - (C) JOURNAL: The Proceedings of the National Academy of Sciences (U.S.A.)
 - (D) VOLUME: 93
 - (F) PAGES: 12840-12844
 - (G) DATE: 12-NOV-1996
 - (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 63:

GCUAUUACCU UAACCCAG 18

- (2) INFORMATION FOR SEQ ID NO: 64:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 17 base pairs
 - (B) TYPE: Nucleic Acid
 - (C) STRANDEDNESS: Single
 - (D) TOPOLOGY: Linear
 - (iv) ANTI-SENSE: Yes
 - (ix) FEATURE:
 - (D) OTHER INFORMATION: Antisense to beta-globin; a.k.a. "3'ss"
 - (x) PUBLICATION INFORMATION:
 - (A) AUTHORS: Sierakowska, H., et al.
 - (B) TITLE: Repair of thalassemic human β -globin in mammalian cells by antisense oligonucleotides
 - (C) JOURNAL: The Proceedings of the National Academy of Sciences (U.S.A.)
 - (D) VOLUME: 93

(F) PAGES: 12840-12844

(G) DATE: 12-NOV-1996

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 64:

CAUUAUUGCC CUGAAAG 17

(2) INFORMATION FOR SEQ ID NO: 65:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 21 base pairs

(B) TYPE: Nucleic Acid

(C) STRANDEDNESS: Single

(D) TOPOLOGY: Linear

(iv) ANTI-SENSE: Yes

(ix) FEATURE:

(D) OTHER INFORMATION: Antisense to malarial agents; a.k.a. "PSI"

(x) PUBLICATION INFORMATION:

(H) DOCUMENT NUMBER: WO 93/13740

(I) FILING DATE: 31-DEC-1991

(J) PUBLICATION DATE: 22-JUL-1993

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 65:

TAAAAAGAAT ATGATCTTCA T 21

(2) INFORMATION FOR SEQ ID NO: 66:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 18 base pairs

(B) TYPE: Nucleic Acid

(C) STRANDEDNESS: Single

(D) TOPOLOGY: Linear

(iv) ANTI-SENSE: Yes

(ix) FEATURE:

(D) OTHER INFORMATION: Antisense to malarial agents; a.k.a. "PSII"

(x) PUBLICATION INFORMATION:

(H) DOCUMENT NUMBER: WO 93/13740 (SEQ ID NO: PSII)

(I) FILING DATE: 31-DEC-1991

(J) PUBLICATION DATE: 22-JUL-1993

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 66:

AGCAACTGAG CCACCTGA 18

(2) INFORMATION FOR SEQ ID NO: 67:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 21 base pairs

(B) TYPE: Nucleic Acid

(C) STRANDEDNESS: Single

(D) TOPOLOGY: Linear

(iv) ANTI-SENSE: Yes

(ix) FEATURE:

(D) OTHER INFORMATION: Antisense to malarial agents; a.k.a. "PSIII"

(x) PUBLICATION INFORMATION:

(H) DOCUMENT NUMBER: WO 93/13740

(I) FILING DATE: 31-DEC-1991

(J) PUBLICATION DATE: 22-JUL-1993

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 67:

GTCGCAGACT TGTTCATCA T 21

(2) INFORMATION FOR SEQ ID NO: 68:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 21 base pairs

(B) TYPE: Nucleic Acid

(C) STRANDEDNESS: Single

(D) TOPOLOGY: Linear

(iv) ANTI-SENSE: Yes

(ix) FEATURE:

(D) OTHER INFORMATION: Antisense to malarial agents; a.k.a. "RI"

(x) PUBLICATION INFORMATION:

(H) DOCUMENT NUMBER: WO 93/13740

(I) FILING DATE: 31-DEC-1991

(J) PUBLICATION DATE: 22-JUL-1993

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 68:

CTTGGCAGCT GCGCGTGACA T 21

(2) INFORMATION FOR SEQ ID NO: 69:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 21 base pairs

(B) TYPE: Nucleic Acid

(C) STRANDEDNESS: Single

(D) TOPOLOGY: Linear

(iv) ANTI-SENSE: Yes

(ix) FEATURE:

(D) OTHER INFORMATION: Antisense to scistosome worms

(x) PUBLICATION INFORMATION:

(H) DOCUMENT NUMBER: WO 95/33759 (SEQ ID NO:1)

(I) FILING DATE: 30-MAY-1995

(J) PUBLICATION DATE: 14-DEC-1995

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 69:

GCCATAGGGG GCAGGGAAGG C 21

(2) INFORMATION FOR SEQ ID NO: 70:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 12 base pairs

(B) TYPE: Nucleic Acid

(C) STRANDEDNESS: Single

(D) TOPOLOGY: Linear

(iv) ANTI-SENSE: Yes

(ix) FEATURE:

(D) OTHER INFORMATION: Antisense to HTLV-III

(x) PUBLICATION INFORMATION:

(H) DOCUMENT NUMBER: WO 87/07300 (SEQ ID NO:A)

(I) FILING DATE: 22-MAY-1987

(J) PUBLICATION DATE: 03-DEC-1987

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 70:

CTGCTAGAGA TT

12

- (2) INFORMATION FOR SEQ ID NO: 71:
- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 20 base pairs
 - (B) TYPE: Nucleic Acid
 - (C) STRANDEDNESS: Single
 - (D) TOPOLOGY: Linear
 - (iv) ANTI-SENSE: Yes
 - (ix) FEATURE:
 - (D) OTHER INFORMATION: Antisense to HTLV-III
 - (x) PUBLICATION INFORMATION:
 - (H) DOCUMENT NUMBER: WO 87/07300 (SEQ ID NO:B)
 - (I) FILING DATE: 22-MAY-1987
 - (J) PUBLICATION DATE: 03-DEC-1987
 - (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 71:

CTGCTAGAGA TTTCCACAC 20

- (2) INFORMATION FOR SEQ ID NO: 72:
- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 25 base pairs
 - (B) TYPE: Nucleic Acid
 - (C) STRANDEDNESS: Single
 - (D) TOPOLOGY: Linear
 - (iv) ANTI-SENSE: Yes
 - (ix) FEATURE:
 - (D) OTHER INFORMATION: Antisense to HTLV-III
 - (x) PUBLICATION INFORMATION:
 - (H) DOCUMENT NUMBER: WO 87/07300 (SEQ ID NO:C)
 - (I) FILING DATE: 22-MAY-1987
 - (J) PUBLICATION DATE: 03-DEC-1987
 - (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 72:

TTCAAGTCCC TGTCGGGCG CAAA 25

- (2) INFORMATION FOR SEQ ID NO: 73:
- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 20 base pairs
 - (B) TYPE: Nucleic Acid
 - (C) STRANDEDNESS: Single
 - (D) TOPOLOGY: Linear
 - (iv) ANTI-SENSE: Yes
 - (ix) FEATURE:
 - (D) OTHER INFORMATION: Antisense to HTLV-III
 - (x) PUBLICATION INFORMATION:
 - (H) DOCUMENT NUMBER: WO 87/07300 (SEQ ID NO:D)
 - (I) FILING DATE: 22-MAY-1987
 - (J) PUBLICATION DATE: 03-DEC-1987
 - (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 73:

GCGTACTCAC CAGTCGCCGC 20

- (2) INFORMATION FOR SEQ ID NO: 74:
- (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 14 base pairs
- (B) TYPE: Nucleic Acid
- (C) STRANDEDNESS: Single
- (D) TOPOLOGY: Linear
- (iv) ANTI-SENSE: Yes
- (ix) FEATURE:
 - (D) OTHER INFORMATION: Antisense to HTLV-III
- (x) PUBLICATION INFORMATION:
 - (H) DOCUMENT NUMBER: WO 87/07300 (SEQ ID NO:E)
 - (I) FILING DATE: 22-MAY-1987
 - (J) PUBLICATION DATE: 03-DEC-1987
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 74:

CTGCTAGAGA TTAA

14

- (2) INFORMATION FOR SEQ ID NO: 75:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 20 base pairs
 - (B) TYPE: Nucleic Acid
 - (C) STRANDEDNESS: Single
 - (D) TOPOLOGY: Linear
 - (iv) ANTI-SENSE: Yes
 - (ix) FEATURE:
 - (D) OTHER INFORMATION: Antisense to HTLV-III
 - (x) PUBLICATION INFORMATION:
 - (H) DOCUMENT NUMBER: WO 87/07300 (SEQ ID NO:F)
 - (I) FILING DATE: 22-MAY-1987
 - (J) PUBLICATION DATE: 03-DEC-1987
 - (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 75:

ACACCCAATT CTGAAAATGG

20

- (2) INFORMATION FOR SEQ ID NO: 76:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 25 base pairs
 - (B) TYPE: Nucleic Acid
 - (C) STRANDEDNESS: Single
 - (D) TOPOLOGY: Linear
 - (iv) ANTI-SENSE: Yes
 - (ix) FEATURE:
 - (D) OTHER INFORMATION: Antisense to HIV-1
 - (x) PUBLICATION INFORMATION:
 - (A) AUTHORS: Agrawal, Sudhir
Tang, Jin Yan
 - (B) TITLE: GEM 91-An Antisense Oligonucleotide Phosphorothioate as a Therapeutic Agent for AIDS
 - (C) JOURNAL: Antisense Research and Development
 - (D) VOLUME: 2
 - (E) ISSUE: 6
 - (F) PAGES: 261-266
 - (G) DATE: Winter-1992
 - (x) PUBLICATION INFORMATION:
 - (H) DOCUMENT NUMBER: WO 94/08004 (SEQ ID NO:1)
 - (I) FILING DATE: 04-OCT-1993

(J) PUBLICATION DATE: 14-APR-1994

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 76:

CTCTCGCACC CATCTCTCTC CTTCT 25

(2) INFORMATION FOR SEQ ID NO: 77:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 26 base pairs
- (B) TYPE: Nucleic Acid
- (C) STRANDEDNESS: Single
- (D) TOPOLOGY: Linear

(iv) ANTI-SENSE: Yes

(ix) FEATURE:

(D) OTHER INFORMATION: Antisense to HIV-1

(x) PUBLICATION INFORMATION:

(H) DOCUMENT NUMBER: WO 94/08004 (SEQ ID NO:2)

(I) FILING DATE: 04-OCT-1993

(J) PUBLICATION DATE: 14-APR-1994

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 77:

CTCTCGCACC CATCTCTCTC CTTCTA 26

(2) INFORMATION FOR SEQ ID NO: 78:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 26 base pairs
- (B) TYPE: Nucleic Acid
- (C) STRANDEDNESS: Single
- (D) TOPOLOGY: Linear

(iv) ANTI-SENSE: Yes

(ix) FEATURE:

(D) OTHER INFORMATION: Antisense to HIV-1

(x) PUBLICATION INFORMATION:

(H) DOCUMENT NUMBER: WO 94/08004 (SEQ ID NO:3)

(I) FILING DATE: 04-OCT-1993

(J) PUBLICATION DATE: 14-APR-1994

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 78:

GCTCTCGCAC CCATCTCTCT CTTCT 26

(2) INFORMATION FOR SEQ ID NO: 79:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 27 base pairs
- (B) TYPE: Nucleic Acid
- (C) STRANDEDNESS: Single
- (D) TOPOLOGY: Linear

(iv) ANTI-SENSE: Yes

(ix) FEATURE:

(D) OTHER INFORMATION: Antisense to HIV-1

(x) PUBLICATION INFORMATION:

(H) DOCUMENT NUMBER: WO 94/08004 (SEQ ID NO:4)

(I) FILING DATE: 04-OCT-1993

(J) PUBLICATION DATE: 14-APR-1994

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 79:

GCTCTCGCAC CCATCTCTCT CTTCTA 27

- (2) INFORMATION FOR SEQ ID NO: 80:
- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 28 base pairs
 - (B) TYPE: Nucleic Acid
 - (C) STRANDEDNESS: Single
 - (D) TOPOLOGY: Linear
 - (iv) ANTI-SENSE: Yes
 - (ix) FEATURE:
 - (D) OTHER INFORMATION: Antisense to HIV-1
 - (x) PUBLICATION INFORMATION:
 - (H) DOCUMENT NUMBER: WO 94/08004 (SEQ ID NO:5)
 - (I) FILING DATE: 04-OCT-1993
 - (J) PUBLICATION DATE: 14-APR-1994
 - (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 80:

GCTCTCGCAC CCATCTCTCT CTTCTAG 28

- (2) INFORMATION FOR SEQ ID NO: 81:
- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 28 base pairs
 - (B) TYPE: Nucleic Acid
 - (C) STRANDEDNESS: Single
 - (D) TOPOLOGY: Linear
 - (iv) ANTI-SENSE: Yes
 - (ix) FEATURE:
 - (D) OTHER INFORMATION: Antisense to HIV-1
 - (x) PUBLICATION INFORMATION:
 - (H) DOCUMENT NUMBER: WO 94/08004 (SEQ ID NO:6)
 - (I) FILING DATE: 04-OCT-1993
 - (J) PUBLICATION DATE: 14-APR-1994
 - (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 81:

CGCTCTCGCA CCCATCTCTC TCCTTCTA 28

- (2) INFORMATION FOR SEQ ID NO: 82:
- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 29 base pairs
 - (B) TYPE: Nucleic Acid
 - (C) STRANDEDNESS: Single
 - (D) TOPOLOGY: Linear
 - (iv) ANTI-SENSE: Yes
 - (ix) FEATURE:
 - (D) OTHER INFORMATION: Antisense to HIV-1
 - (x) PUBLICATION INFORMATION:
 - (H) DOCUMENT NUMBER: WO 94/08004 (SEQ ID NO:7)
 - (I) FILING DATE: 04-OCT-1993
 - (J) PUBLICATION DATE: 14-APR-1994
 - (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 82:

CGCTCTCGCA CCCATCTCTC TCCTTCTAG 29

- (2) INFORMATION FOR SEQ ID NO: 83:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 30 base pairs
 - (B) TYPE: Nucleic Acid
 - (C) STRANDEDNESS: Single
 - (D) TOPOLOGY: Linear
- (iv) ANTI-SENSE: Yes
- (ix) FEATURE:
 - (D) OTHER INFORMATION: Antisense to HIV-1
- (x) PUBLICATION INFORMATION:
 - (H) DOCUMENT NUMBER: WO 94/08004 (SEQ ID NO:8)
 - (I) FILING DATE: 04-OCT-1993
 - (J) PUBLICATION DATE: 14-APR-1994
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 83:

CGCTCTCGCA CCCATCTCTC TCCTTCTAGC 30

- (2) INFORMATION FOR SEQ ID NO: 84:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 30 base pairs
 - (B) TYPE: Nucleic Acid
 - (C) STRANDEDNESS: Single
 - (D) TOPOLOGY: Linear
 - (iv) ANTI-SENSE: Yes
 - (ix) FEATURE:
 - (D) OTHER INFORMATION: Antisense to HIV-1
 - (x) PUBLICATION INFORMATION:
 - (H) DOCUMENT NUMBER: WO 94/08004 (SEQ ID NO:9)
 - (I) FILING DATE: 04-OCT-1993
 - (J) PUBLICATION DATE: 14-APR-1994
 - (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 84:

ACGCTCTCGC ACCCATCTCT CTCCTTCTAG 30

- (2) INFORMATION FOR SEQ ID NO: 85
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 20 base pairs
 - (B) TYPE: Nucleic Acid
 - (C) STRANDEDNESS: Single
 - (D) TOPOLOGY: Linear
 - (iv) ANTI-SENSE: Yes
 - (ix) FEATURE:
 - (D) OTHER INFORMATION: Antisense to HIV-1
 - (x) PUBLICATION INFORMATION:
 - (H) DOCUMENT NUMBER: WO 94/08004 (SEQ ID NO:10)
 - (I) FILING DATE: 04-OCT-1993
 - (J) PUBLICATION DATE: 14-APR-1994
 - (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 85:

CTCGCACCCA TCTCTCTCCT 20

- (2) INFORMATION FOR SEQ ID NO: 86:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 17 base pairs
 - (B) TYPE: Nucleic Acid

- (C) STRANDEDNESS: Single
- (D) TOPOLOGY: Linear
- (iv) ANTI-SENSE: Yes
- (ix) FEATURE:
 - (D) OTHER INFORMATION: Antisense to HIV-1; a.k.a. "AR 177"
- (x) PUBLICATION INFORMATION:
 - (A) AUTHORS: Bishop, J.S., et al.
 - (B) TITLE: Intramolecular G-quartet Motifs Confer Nuclease Resistance to a Potent Anti-HIV Oligonucleotide
 - (C) JOURNAL: The Journal of Biological Chemistry
 - (D) VOLUME: 271
 - (E) ISSUE: 10
 - (F) PAGES: 5698-5703
 - (G) DATE: 08-MAR-1996
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 86:

GTGGTGGGTG GGTGGGT 17

- (2) INFORMATION FOR SEQ ID NO: 87:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 26 base pairs
 - (B) TYPE: Nucleic Acid
 - (C) STRANDEDNESS: Single
 - (D) TOPOLOGY: Linear
 - (iv) ANTI-SENSE: Yes
 - (ix) FEATURE:
 - (D) OTHER INFORMATION: Antisense to HIV
 - (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 87:

GCCTATTCTG CTATGTCGAC ACCCAA 26

- (2) INFORMATION FOR SEQ ID NO: 88:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 26 base pairs
 - (B) TYPE: Nucleic Acid
 - (C) STRANDEDNESS: Single
 - (D) TOPOLOGY: Linear
 - (iv) ANTI-SENSE: Yes
 - (ix) FEATURE:
 - (D) OTHER INFORMATION: Antisense to HIV
 - (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 88:

CTTCGGGCCT GTCGGGTCCC CTCGGG 26

- (2) INFORMATION FOR SEQ ID NO: 89:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 26 base pairs
 - (B) TYPE: Nucleic Acid
 - (C) STRANDEDNESS: Single
 - (D) TOPOLOGY: Linear
 - (iv) ANTI-SENSE: Yes
 - (ix) FEATURE:

- (D) OTHER INFORMATION: Antisense to HIV
- (x) PUBLICATION INFORMATION:
 - (H) DOCUMENT NUMBER: WO 95/03407
 - (I) FILING DATE: 19-JUL-1994
 - (J) PUBLICATION DATE: 02-FEB-1995
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 89:

CTTCGGGCCT GTCGGGTCCC CTCGGG 26

- (2) INFORMATION FOR SEQ ID NO: 90:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 26 base pairs
 - (B) TYPE: Nucleic Acid
 - (C) STRANDEDNESS: Single
 - (D) TOPOLOGY: Linear
 - (iv) ANTI-SENSE: Yes
 - (ix) FEATURE:
 - (D) OTHER INFORMATION: Antisense to HIV
 - (x) PUBLICATION INFORMATION:
 - (H) DOCUMENT NUMBER: WO 96/02557 (SEQ ID NO:3)
 - (I) FILING DATE: 14-JUL-1995
 - (J) PUBLICATION DATE: 01-FEB-1996
 - (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 90:

GCTGGTGATC CTTTCCATCC CTGTGG 26

- (2) INFORMATION FOR SEQ ID NO: 91:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 26 base pairs
 - (B) TYPE: Nucleic Acid
 - (C) STRANDEDNESS: Single
 - (D) TOPOLOGY: Linear
 - (iv) ANTI-SENSE: Yes
 - (ix) FEATURE:
 - (D) OTHER INFORMATION: Antisense to HIV
 - (x) PUBLICATION INFORMATION:
 - (H) DOCUMENT NUMBER: WO 96/02557 (SEQ ID NO:5)
 - (I) FILING DATE: 14-JUL-1995
 - (J) PUBLICATION DATE: 01-FEB-1996
 - (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 91:

CTACTACTCC TTGACTTTGG GGATTG 26

- (2) INFORMATION FOR SEQ ID NO: 92:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 29 base pairs
 - (B) TYPE: Nucleic Acid
 - (C) STRANDEDNESS: Single
 - (D) TOPOLOGY: Linear
 - (iv) ANTI-SENSE: Yes
 - (ix) FEATURE:
 - (D) OTHER INFORMATION: Antisense to HIV
 - (x) PUBLICATION INFORMATION:
 - (H) DOCUMENT NUMBER: WO 96/02557 (SEQ ID NO:6)

(I) FILING DATE: 14-JUL-1995

(J) PUBLICATION DATE: 01-FEB-1996

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 92:

CCTCTGTTAG TAACATATCC TGCTTTTCC 29

(2) INFORMATION FOR SEQ ID NO: 93:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 26 base pairs

(B) TYPE: Nucleic Acid

(C) STRANDEDNESS: Single

(D) TOPOLOGY: Linear

(iv) ANTI-SENSE: Yes

(ix) FEATURE:

(D) OTHER INFORMATION: Antisense to HIV

(x) PUBLICATION INFORMATION:

(H) DOCUMENT NUMBER: WO 96/02557 (SEQ ID NO:8)

(I) FILING DATE: 14-JUL-1995

(J) PUBLICATION DATE: 01-FEB-1996

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 93:

GGTTGCTTCC TTCCTCTCTG GTACCC 26

(2) INFORMATION FOR SEQ ID NO: 94:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 41 base pairs

(B) TYPE: Nucleic Acid

(C) STRANDEDNESS: Single

(D) TOPOLOGY: Linear

(iv) ANTI-SENSE: Yes

(ix) FEATURE:

(D) OTHER INFORMATION: Antisense to HIV

(x) PUBLICATION INFORMATION:

(H) DOCUMENT NUMBER: WO 96/02557 (SEQ ID NO:10)

(I) FILING DATE: 14-JUL-1995

(J) PUBLICATION DATE: 01-FEB-1996

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 94:

CTAGCAGTGG CGCCCGAACA GGTTCGCCTG TTCGGGCGCC A 41

(2) INFORMATION FOR SEQ ID NO: 95:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 30 base pairs

(B) TYPE: Nucleic Acid

(C) STRANDEDNESS: Single

(D) TOPOLOGY: Linear

(iv) ANTI-SENSE: Yes

(ix) FEATURE:

(D) OTHER INFORMATION: Antisense to HIV

(x) PUBLICATION INFORMATION:

(H) DOCUMENT NUMBER: WO 96/02557 (SEQ ID NO:22)

(I) FILING DATE: 14-JUL-1995

(J) PUBLICATION DATE: 01-FEB-1996

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 95:

CATCACCTGC CATCTGTTTT CCATAATCCC 30

- (2) INFORMATION FOR SEQ ID NO: 96:
- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 31 base pairs
 - (B) TYPE: Nucleic Acid
 - (C) STRANDEDNESS: Single
 - (D) TOPOLOGY: Linear
 - (iv) ANTI-SENSE: Yes
 - (ix) FEATURE:
 - (D) OTHER INFORMATION: Antisense to HIV
 - (x) PUBLICATION INFORMATION:
 - (H) DOCUMENT NUMBER: WO 96/02557 (SEQ ID NO:23)
 - (I) FILING DATE: 14-JUL-1995
 - (J) PUBLICATION DATE: 01-FEB-1996
 - (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 96:

CCTGTCTACT TGCCACACAA TCATCACCTG C 31

- (2) INFORMATION FOR SEQ ID NO: 97:
- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 30 base pairs
 - (B) TYPE: Nucleic Acid
 - (C) STRANDEDNESS: Single
 - (D) TOPOLOGY: Linear
 - (iv) ANTI-SENSE: Yes
 - (ix) FEATURE:
 - (D) OTHER INFORMATION: Antisense to HIV
 - (x) PUBLICATION INFORMATION:
 - (H) DOCUMENT NUMBER: WO 96/02557 (SEQ ID NO:25)
 - (I) FILING DATE: 14-JUL-1995
 - (J) PUBLICATION DATE: 01-FEB-1996
 - (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 97:

ACTATTGCTA TTATTATTGC TACTACTAAT 30

- (2) INFORMATION FOR SEQ ID NO: 98:
- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 26 base pairs
 - (B) TYPE: Nucleic Acid
 - (C) STRANDEDNESS: Single
 - (D) TOPOLOGY: Linear
 - (iv) ANTI-SENSE: Yes
 - (ix) FEATURE:
 - (D) OTHER INFORMATION: Antisense to HIV
 - (x) PUBLICATION INFORMATION:
 - (H) DOCUMENT NUMBER: WO 95/03406 (SEQ ID NO:1)
 - (I) FILING DATE: 19-JUL-1994
 - (J) PUBLICATION DATE: 02-FEB-1995
 - (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 98:

CTTCGGGCCT GTCGGGTCCC CTCGGG 26

- (2) INFORMATION FOR SEQ ID NO: 99:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 25 base pairs
 - (B) TYPE: Nucleic Acid
 - (C) STRANDEDNESS: Single
 - (D) TOPOLOGY: Linear
- (iv) ANTI-SENSE: Yes
- (ix) FEATURE:
 - (D) OTHER INFORMATION: Antisense to HIV
- (x) PUBLICATION INFORMATION:
 - (H) DOCUMENT NUMBER: WO 95/03406 (SEQ ID NO:2)
 - (I) FILING DATE: 19-JUL-1994
 - (J) PUBLICATION DATE: 02-FEB-1995
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 99:

CUUCGGGCCU GUCGGGUCCC UCGGG 25

- (2) INFORMATION FOR SEQ ID NO: 100:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 14 base pairs
 - (B) TYPE: Nucleic Acid
 - (C) STRANDEDNESS: Single
 - (D) TOPOLOGY: Linear
 - (iv) ANTI-SENSE: Yes
 - (ix) FEATURE:
 - (D) OTHER INFORMATION: Antisense to HIV
 - (x) PUBLICATION INFORMATION:
 - (H) DOCUMENT NUMBER: WO 95/03406 (SEQ ID NO:3)
 - (I) FILING DATE: 19-JUL-1994
 - (J) PUBLICATION DATE: 02-FEB-1995
 - (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 100:

GCCTGTCGGG TCCC 14

- (2) INFORMATION FOR SEQ ID NO: 101:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 14 base pairs
 - (B) TYPE: Nucleic Acid
 - (C) STRANDEDNESS: Single
 - (D) TOPOLOGY: Linear
 - (iv) ANTI-SENSE: Yes
 - (ix) FEATURE:
 - (D) OTHER INFORMATION: Antisense to HIV
 - (x) PUBLICATION INFORMATION:
 - (H) DOCUMENT NUMBER: WO 95/03406 (SEQ ID NO:4)
 - (I) FILING DATE: 19-JUL-1994
 - (J) PUBLICATION DATE: 02-FEB-1995
 - (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 101:

GCCUGUCGGG UCCC 14

- (2) INFORMATION FOR SEQ ID NO: 102:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 26 base pairs
 - (B) TYPE: Nucleic Acid

- (C) STRANDEDNESS: Single
- (D) TOPOLOGY: Linear
- (iv) ANTI-SENSE: Yes
- (ix) FEATURE:
 - (D) OTHER INFORMATION: Antisense to HIV
- (x) PUBLICATION INFORMATION:
 - (H) DOCUMENT NUMBER: WO 95/03406 (SEQ ID NO:5)
 - (I) FILING DATE: 19-JUL-1994
 - (J) PUBLICATION DATE: 02-FEB-1995
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 102:

CTTCGGGCCT GTCGGGTCCC CTCGGG 26

- (2) INFORMATION FOR SEQ ID NO: 103:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 26 base pairs
 - (B) TYPE: Nucleic Acid
 - (C) STRANDEDNESS: Single
 - (D) TOPOLOGY: Linear
 - (iv) ANTI-SENSE: Yes
 - (ix) FEATURE:
 - (D) OTHER INFORMATION: Antisense to HIV
 - (x) PUBLICATION INFORMATION:
 - (H) DOCUMENT NUMBER: WO 95/03406 (SEQ ID NO:6)
 - (I) FILING DATE: 19-JUL-1994
 - (J) PUBLICATION DATE: 02-FEB-1995
 - (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 103:

GCTGGTGATC CTTTCCATCC CTGTGG 26

- (2) INFORMATION FOR SEQ ID NO: 104:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 8 base pairs
 - (B) TYPE: Nucleic Acid
 - (C) STRANDEDNESS: Single
 - (D) TOPOLOGY: Linear
 - (iv) ANTI-SENSE: Yes
 - (ix) FEATURE:
 - (D) OTHER INFORMATION: Antisense to HIV; a.k.a. "ISIS 5320"
 - (x) PUBLICATION INFORMATION:
 - (H) DOCUMENT NUMBER: US 5523389
 - (I) FILING DATE: 28-SEP-1994
 - (J) PUBLICATION DATE: 04-JUN-1995
 - (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 104:

TTGGGGTT 8

- (2) INFORMATION FOR SEQ ID NO: 105:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 20 base pairs
 - (B) TYPE: Nucleic Acid
 - (C) STRANDEDNESS: Single
 - (D) TOPOLOGY: Linear

- (iv) ANTI-SENSE: Yes
- (ix) FEATURE:
 - (D) OTHER INFORMATION: Antisense to Hepatitis C Virus;
a.k.a. "ISIS 6547"
- (x) PUBLICATION INFORMATION:
 - (A) AUTHORS: Hanecak, R., et al.
 - (B) TITLE: Intramolecular G-quartet Motifs Confer
Nuclease Resistance to a Potent Anti-HIV
Oligonucleotide
 - (C) JOURNAL: Journal of Virology
 - (D) VOLUME: 70
 - (E) ISSUE: 8
 - (F) PAGES: 5203-5212
 - (G) DATE: 01-AUG-1996
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 105:

GTGCTCATGG TGCACGGTCT 20

- (2) INFORMATION FOR SEQ ID NO: 106:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 20 base pairs
 - (B) TYPE: Nucleic Acid
 - (C) STRANDEDNESS: Single
 - (D) TOPOLOGY: Linear
 - (iv) ANTI-SENSE: Yes
 - (ix) FEATURE:
 - (D) OTHER INFORMATION: Antisense to influenza virus
 - (x) PUBLICATION INFORMATION:
 - (H) DOCUMENT NUMBER: WO 91/16902 (SEQ ID NO:1)
 - (I) FILING DATE: 29-APR-1991
 - (J) PUBLICATION DATE: 14-NOV-1991
 - (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 106:

CATTCAAATG GTTTGCCCTGC 20

- (2) INFORMATION FOR SEQ ID NO: 107:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 20 base pairs
 - (B) TYPE: Nucleic Acid
 - (C) STRANDEDNESS: Single
 - (D) TOPOLOGY: Linear
 - (iv) ANTI-SENSE: Yes
 - (ix) FEATURE:
 - (D) OTHER INFORMATION: Antisense to influenza virus
 - (x) PUBLICATION INFORMATION:
 - (H) DOCUMENT NUMBER: WO 91/16902 (SEQ ID NO:2)
 - (I) FILING DATE: 29-APR-1991
 - (J) PUBLICATION DATE: 14-NOV-1991
 - (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 107:

GCAGGCAAAC CATTTGAATG 20

- (2) INFORMATION FOR SEQ ID NO: 108:
 - (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 20 base pairs
- (B) TYPE: Nucleic Acid
- (C) STRANDEDNESS: Single
- (D) TOPOLOGY: Linear
- (iv) ANTI-SENSE: Yes
- (ix) FEATURE:
 - (D) OTHER INFORMATION: Antisense to influenza virus
- (x) PUBLICATION INFORMATION:
 - (H) DOCUMENT NUMBER: WO 91/16902 (SEQ ID NO:3)
 - (I) FILING DATE: 29-APR-1991
 - (J) PUBLICATION DATE: 14-NOV-1991
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 108:

CCATAATCCC CTGCTTCTGC 20

- (2) INFORMATION FOR SEQ ID NO: 109:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 20 base pairs
 - (B) TYPE: Nucleic Acid
 - (C) STRANDEDNESS: Single
 - (D) TOPOLOGY: Linear
 - (iv) ANTI-SENSE: Yes
 - (ix) FEATURE:
 - (D) OTHER INFORMATION: Antisense to influenza virus
 - (x) PUBLICATION INFORMATION:
 - (H) DOCUMENT NUMBER: WO 91/16902 (SEQ ID NO:4)
 - (I) FILING DATE: 29-APR-1991
 - (J) PUBLICATION DATE: 14-NOV-1991
 - (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 109:

GCAGAAGCAG GGGATTATGG 20

- (2) INFORMATION FOR SEQ ID NO: 110:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 20 base pairs
 - (B) TYPE: Nucleic Acid
 - (C) STRANDEDNESS: Single
 - (D) TOPOLOGY: Linear
 - (iv) ANTI-SENSE: Yes
 - (ix) FEATURE:
 - (D) OTHER INFORMATION: Antisense to influenza virus
 - (x) PUBLICATION INFORMATION:
 - (H) DOCUMENT NUMBER: WO 91/16902 (SEQ ID NO:5)
 - (I) FILING DATE: 29-APR-1991
 - (J) PUBLICATION DATE: 14-NOV-1991
 - (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 110:

GCAGAAGCAG AGGATTATGG 20

- (2) INFORMATION FOR SEQ ID NO: 111:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 20 base pairs
 - (B) TYPE: Nucleic Acid
 - (C) STRANDEDNESS: Single

- (D) TOPOLOGY: Linear
- (iv) ANTI-SENSE: Yes
- (ix) FEATURE:
 - (D) OTHER INFORMATION: Antisense to influenza virus
- (x) PUBLICATION INFORMATION:
 - (H) DOCUMENT NUMBER: WO 91/16902 (SEQ ID NO:6)
 - (I) FILING DATE: 29-APR-1991
 - (J) PUBLICATION DATE: 14-NOV-1991
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 111:

GCATAAGCAG AGGATCATGG 20

- (2) INFORMATION FOR SEQ ID NO: 112:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 20 base pairs
 - (B) TYPE: Nucleic Acid
 - (C) STRANDEDNESS: Single
 - (D) TOPOLOGY: Linear
 - (iv) ANTI-SENSE: Yes
 - (ix) FEATURE:
 - (D) OTHER INFORMATION: Antisense to influenza virus
 - (x) PUBLICATION INFORMATION:
 - (H) DOCUMENT NUMBER: WO 91/16902 (SEQ ID NO:7)
 - (I) FILING DATE: 29-APR-1991
 - (J) PUBLICATION DATE: 14-NOV-1991
 - (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 112:

GGCAAGCTTT ATTGAGGCTT 20

- (2) INFORMATION FOR SEQ ID NO: 113:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 20 base pairs
 - (B) TYPE: Nucleic Acid
 - (C) STRANDEDNESS: Single
 - (D) TOPOLOGY: Linear
 - (iv) ANTI-SENSE: Yes
 - (ix) FEATURE:
 - (D) OTHER INFORMATION: Antisense to influenza virus
 - (x) PUBLICATION INFORMATION:
 - (H) DOCUMENT NUMBER: WO 91/16902 (SEQ ID NO:8)
 - (I) FILING DATE: 29-APR-1991
 - (J) PUBLICATION DATE: 14-NOV-1991
 - (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 113:

ATCTTCATCA TCTGAGAGAT 20

- (2) INFORMATION FOR SEQ ID NO: 114:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 20 base pairs
 - (B) TYPE: Nucleic Acid
 - (C) STRANDEDNESS: Single
 - (D) TOPOLOGY: Linear
 - (iv) ANTI-SENSE: Yes
 - (ix) FEATURE:

- (D) OTHER INFORMATION: Antisense to influenza virus
- (x) PUBLICATION INFORMATION:
 - (H) DOCUMENT NUMBER: WO 91/16902 (SEQ ID NO:9)
 - (I) FILING DATE: 29-APR-1991
 - (J) PUBLICATION DATE: 14-NOV-1991
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 114:

CGTAAGCAAC AGTAGTCCTA 20

- (2) INFORMATION FOR SEQ ID NO: 115:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 25 base pairs
 - (B) TYPE: Nucleic Acid
 - (C) STRANDEDNESS: Single
 - (D) TOPOLOGY: Linear
 - (iv) ANTI-SENSE: Yes
 - (ix) FEATURE:
 - (D) OTHER INFORMATION: Antisense to Epstein-Barr Virus
 - (x) PUBLICATION INFORMATION:
 - (H) DOCUMENT NUMBER: WO 95/22554 (SEQ ID NO:1)
 - (I) FILING DATE: 17-FEB-1995
 - (J) PUBLICATION DATE: 24-AUG-1995
 - (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 115:

TTTGGGTCCA TCATCTTCAG CAAAG 25

- (2) INFORMATION FOR SEQ ID NO: 116:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 20 base pairs
 - (B) TYPE: Nucleic Acid
 - (C) STRANDEDNESS: Single
 - (D) TOPOLOGY: Linear
 - (iv) ANTI-SENSE: Yes
 - (ix) FEATURE:
 - (D) OTHER INFORMATION: Antisense to Epstein-Barr Virus
 - (x) PUBLICATION INFORMATION:
 - (H) DOCUMENT NUMBER: WO 95/22554 (SEQ ID NO:2)
 - (I) FILING DATE: 17-FEB-1995
 - (J) PUBLICATION DATE: 24-AUG-1995
 - (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 116:

CATCATCTTC AGCAAAGATA 20

- (2) INFORMATION FOR SEQ ID NO: 117:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 20 base pairs
 - (B) TYPE: Nucleic Acid
 - (C) STRANDEDNESS: Single
 - (D) TOPOLOGY: Linear
 - (iv) ANTI-SENSE: Yes
 - (ix) FEATURE:
 - (D) OTHER INFORMATION: Antisense to Epstein-Barr Virus
 - (x) PUBLICATION INFORMATION:
 - (H) DOCUMENT NUMBER: WO 95/22554 (SEQ ID NO:3)

(I) FILING DATE: 17-FEB-1995

(J) PUBLICATION DATE: 24-AUG-1995

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 117:

TCAGAAGTCG AGTTTGGGTC 20

(2) INFORMATION FOR SEQ ID NO: 118:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 20 base pairs

(B) TYPE: Nucleic Acid

(C) STRANDEDNESS: Single

(D) TOPOLOGY: Linear

(iv) ANTI-SENSE: Yes

(ix) FEATURE:

(D) OTHER INFORMATION: Antisense to Respiratory Syncytial Virus

(x) PUBLICATION INFORMATION:

(H) DOCUMENT NUMBER: WO 95/22553 (SEQ ID NO:1)

(I) FILING DATE: 17-FEB-1995

(J) PUBLICATION DATE: 24-AUG-1995

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 118:

ACGCGAAAAA ATGCGTACAA 20

(2) INFORMATION FOR SEQ ID NO: 119:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 20 base pairs

(B) TYPE: Nucleic Acid

(C) STRANDEDNESS: Single

(D) TOPOLOGY: Linear

(iv) ANTI-SENSE: Yes

(ix) FEATURE:

(D) OTHER INFORMATION: Antisense to Respiratory Syncytial Virus

(x) PUBLICATION INFORMATION:

(H) DOCUMENT NUMBER: WO 95/22553 (SEQ ID NO:2)

(I) FILING DATE: 17-FEB-1995

(J) PUBLICATION DATE: 24-AUG-1995

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 119:

TAAACCAAAA AAATGGGGCA 20

(2) INFORMATION FOR SEQ ID NO: 120:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 20 base pairs

(B) TYPE: Nucleic Acid

(C) STRANDEDNESS: Single

(D) TOPOLOGY: Linear

(iv) ANTI-SENSE: Yes

(ix) FEATURE:

(D) OTHER INFORMATION: Antisense to Respiratory Syncytial Virus

(x) PUBLICATION INFORMATION:

(H) DOCUMENT NUMBER: WO 95/22553 (SEQ ID NO:3)

(I) FILING DATE: 17-FEB-1995

(J) PUBLICATION DATE: 24-AUG-1995

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 120:

AAATGGGGCA AATAAGAATT 20

(2) INFORMATION FOR SEQ ID NO: 121:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 20 base pairs

(B) TYPE: Nucleic Acid

(C) STRANDEDNESS: Single

(D) TOPOLOGY: Linear

(iv) ANTI-SENSE: Yes

(ix) FEATURE:

(D) OTHER INFORMATION: Antisense to Respiratory Syncytial Virus

(x) PUBLICATION INFORMATION:

(H) DOCUMENT NUMBER: WO 95/22553 (SEQ ID NO:4)

(I) FILING DATE: 17-FEB-1995

(J) PUBLICATION DATE: 24-AUG-1995

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 121:

AAAAATGGGG CAAATAAATC 20

(2) INFORMATION FOR SEQ ID NO: 122:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 20 base pairs

(B) TYPE: Nucleic Acid

(C) STRANDEDNESS: Single

(D) TOPOLOGY: Linear

(iv) ANTI-SENSE: Yes

(ix) FEATURE:

(D) OTHER INFORMATION: Antisense to cytomegalovirus intron-exon boundary of genes UL36 and UL37; a.k.a. "UL36ANTI" and "GEM 132"

(x) PUBLICATION INFORMATION:

(A) AUTHORS: Pari, G.S., et al.

(B) TITLE: Potent Antiviral Activity of an Antisense Oligonucleotide Complementary to the Intron-Exon Boundary of Human Cytomegalovirus Genes UL36 and UL37

(C) JOURNAL: Antimicrobial Agents and Chemotherapy

(D) VOLUME: 39

(E) ISSUE: 5

(F) PAGES: 1157-1161

(G) DATE: MAY-1995

(x) PUBLICATION INFORMATION:

(H) DOCUMENT NUMBER: WO 95/32213 (SEQ ID NO:1)

(I) FILING DATE: 19-MAY-1995

(J) PUBLICATION DATE: 30-NOV-1995

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 122:

TGGGGCTTAC CTTGCGAACA 20

(2) INFORMATION FOR SEQ ID NO: 123:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 20 base pairs
- (B) TYPE: Nucleic Acid
- (C) STRANDEDNESS: Single
- (D) TOPOLOGY: Linear
- (iv) ANTI-SENSE: Yes
- (ix) FEATURE:
 - (D) OTHER INFORMATION: Antisense to cytomegalovirus
- (x) PUBLICATION INFORMATION:
 - (H) DOCUMENT NUMBER: WO 95/32213 (SEQ ID NO:2)
 - (I) FILING DATE: 19-MAY-1995
 - (J) PUBLICATION DATE: 30-NOV-1995
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 123:

GACGTGGGGC TTACCTTGCG 20

- (2) INFORMATION FOR SEQ ID NO: 124:
- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 20 base pairs
 - (B) TYPE: Nucleic Acid
 - (C) STRANDEDNESS: Single
 - (D) TOPOLOGY: Linear
 - (iv) ANTI-SENSE: Yes
 - (ix) FEATURE:
 - (D) OTHER INFORMATION: Antisense to cytomegalovirus
 - (x) PUBLICATION INFORMATION:
 - (H) DOCUMENT NUMBER: WO 95/32213 (SEQ ID NO:3)
 - (I) FILING DATE: 19-MAY-1995
 - (J) PUBLICATION DATE: 30-NOV-1995
 - (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 124:

TCTTCAACGA CGTGGGGCTT 20

- (2) INFORMATION FOR SEQ ID NO: 125:
- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 21 base pairs
 - (B) TYPE: Nucleic Acid
 - (C) STRANDEDNESS: Single
 - (D) TOPOLOGY: Linear
 - (iv) ANTI-SENSE: Yes
 - (ix) FEATURE:
 - (D) OTHER INFORMATION: Antisense to cytomegalovirus
 - (x) PUBLICATION INFORMATION:
 - (H) DOCUMENT NUMBER: WO 95/32213 (SEQ ID NO:4)
 - (I) FILING DATE: 19-MAY-1995
 - (J) PUBLICATION DATE: 30-NOV-1995
 - (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 125:

GACGCGTGGC ATGCTTGGTG T 21

- (2) INFORMATION FOR SEQ ID NO: 126:
- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 21 base pairs
 - (B) TYPE: Nucleic Acid
 - (C) STRANDEDNESS: Single

- (D) TOPOLOGY: Linear
- (iv) ANTI-SENSE: Yes
- (ix) FEATURE:
 - (D) OTHER INFORMATION: Antisense to cytomegalovirus
- (x) PUBLICATION INFORMATION:
 - (H) DOCUMENT NUMBER: WO 95/32213 (SEQ ID NO:5)
 - (I) FILING DATE: 19-MAY-1995
 - (J) PUBLICATION DATE: 30-NOV-1995
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 126:

AGGTTGGGGT CGACGCGTGG C 21

- (2) INFORMATION FOR SEQ ID NO: 127:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 21 base pairs
 - (B) TYPE: Nucleic Acid
 - (C) STRANDEDNESS: Single
 - (D) TOPOLOGY: Linear
 - (iv) ANTI-SENSE: Yes
 - (ix) FEATURE:
 - (D) OTHER INFORMATION: Antisense to cytomegalovirus
 - (x) PUBLICATION INFORMATION:
 - (H) DOCUMENT NUMBER: WO 95/32213 (SEQ ID NO:6)
 - (I) FILING DATE: 19-MAY-1995
 - (J) PUBLICATION DATE: 30-NOV-1995
 - (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 127:

GGCTGAGCGG TCATCCTCGG A 21

- (2) INFORMATION FOR SEQ ID NO: 128:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 20 base pairs
 - (B) TYPE: Nucleic Acid
 - (C) STRANDEDNESS: Single
 - (D) TOPOLOGY: Linear
 - (iv) ANTI-SENSE: Yes
 - (ix) FEATURE:
 - (D) OTHER INFORMATION: Antisense to cytomegalovirus
 - (x) PUBLICATION INFORMATION:
 - (H) DOCUMENT NUMBER: WO 95/32213 (SEQ ID NO:7)
 - (I) FILING DATE: 19-MAY-1995
 - (J) PUBLICATION DATE: 30-NOV-1995
 - (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 128:

CGGGACTCAC CGTCGTTCTG 20

- (2) INFORMATION FOR SEQ ID NO: 129:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 20
 - (B) TYPE: Nucleic Acid
 - (C) STRANDEDNESS: Single
 - (D) TOPOLOGY: Linear
 - (iv) ANTI-SENSE: Yes
 - (ix) FEATURE:

- (D) OTHER INFORMATION: Antisense to cytomegalovirus
- (x) PUBLICATION INFORMATION:
 - (H) DOCUMENT NUMBER: WO 95/32213 (SEQ ID NO:8)
 - (I) FILING DATE: 19-MAY-1995
 - (J) PUBLICATION DATE: 30-NOV-1995
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 129:

GGAGGAGAGC CTACAGACGG 20

- (2) INFORMATION FOR SEQ ID NO: 130:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 20 base pairs
 - (B) TYPE: Nucleic Acid
 - (C) STRANDEDNESS: Single
 - (D) TOPOLOGY: Linear
 - (iv) ANTI-SENSE: Yes
 - (ix) FEATURE:
 - (D) OTHER INFORMATION: Antisense to cytomegalovirus
 - (x) PUBLICATION INFORMATION:
 - (H) DOCUMENT NUMBER: WO 95/32213 (SEQ ID NO:9)
 - (I) FILING DATE: 19-MAY-1995
 - (J) PUBLICATION DATE: 30-NOV-1995
 - (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 130:

AGTAACGCAC CGTCGGTGCC 20

- (2) INFORMATION FOR SEQ ID NO: 131:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 21 base pairs
 - (B) TYPE: Nucleic Acid
 - (C) STRANDEDNESS: Single
 - (D) TOPOLOGY: Linear
 - (iv) ANTI-SENSE: Yes
 - (ix) FEATURE:
 - (D) OTHER INFORMATION: Antisense to cytomegalovirus;
a.k.a. "ISIS 2922"
 - (x) PUBLICATION INFORMATION:
 - (H) DOCUMENT NUMBER: US 5442049 (SEQ ID NO:22)
 - (I) FILING DATE: 25-JAN-1993
 - (J) PUBLICATION DATE: 15-AUG-1995
 - (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 131:

GCGTTTGCTC TTCTTCTTGC G 21

- (2) INFORMATION FOR SEQ ID NO: 132:
 - (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 19 base pairs
 - (B) TYPE: Nucleic Acid
 - (C) STRANDEDNESS: Single
 - (D) TOPOLOGY: Linear
 - (iv) ANTI-SENSE: Yes
 - (ix) FEATURE:
 - (D) OTHER INFORMATION: Antisense to VEGF/VPF; a.k.a. "H3"
 - (x) PUBLICATION INFORMATION:

(A) AUTHORS: Smyth, A.P., et al.
(B) TITLE: Antisense Oligonucleotides Inhibit Vascular
Endothelial Growth Factor/vascular Permeability Factor Expression
in Normal Human Epidermal Keratinocytes Boundary of Human
Cytomegalovirus Genes UL36 and UL37
(C) JOURNAL: The Journal of Investigative Dermatology
(D) VOLUME: 108
(E) ISSUE: 4
(F) PAGES: 523-526
(G) DATE: N/A-APR-1997

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 132:

CACCCAAGAC AGCAGAAAG

19